

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A stylet for use with a medical stimulating lead, the stylet comprising:

an elongated body having a proximal end, a distal end, a length, and an outer diameter along the length, wherein the outer diameter of the body is isodiametric; [[and]]

a handle disposed at the proximal end of the body, wherein the handle has an outer diameter that is larger than the outer diameter of the body; and

a rounded tip glued or welded directly to the distal end of the body such that a proximal end of the rounded tip is isodiametric with the distal end of the body;

wherein the body comprises an outer covering that is a tube ~~extending along the entire length of the body, the outer covering made of a metal outer covering material and being constructed to have a solid annular lateral cross-section;~~

wherein the body also comprises a solid inner core made of inner core material, the inner core inside the outer covering and ~~extending along the length of the body, the inner core having a solid lateral cross-section;~~

~~wherein the outer diameter of the body is isodiametric;~~

wherein the outer covering material and inner core material have different elastic and buckling properties.

2. (Original) The stylet of claim 1, wherein the outer covering material is a super-elastic material, which outer covering material is substantially more resistant to permanent bending deformation than the inner core material; and wherein the inner core material is a linear elastic material, which inner core material is substantially more resistant to buckling than the outer covering material.

3. (Previously presented) The stylet of claim 2, wherein the inner core material is selected from the group consisting of cold drawn 304 stainless steel, 316 stainless steel, and 316L stainless steel; and wherein the outer material is nitinol (425 nickel-titanium alloy).

4. (Previously Presented) The stylet of claim 3, wherein the inner core is a pre-formed rod.

5. (Cancelled)

6. (Previously presented) The stylet of claim 1, wherein the inner core has a variable diameter along the length of the body, and wherein the outer covering also has a diameter that varies along the length of the body such that the outer diameter of the body remains isodiametric.

7. - 9. (Cancelled)

10. (Previously presented) The stylet of claim 1, wherein the inner core and the outer covering each have substantially constant thicknesses along the length of the body.

11. (Original) The stylet of claim 1, wherein the inner core material is a super-elastic material, which inner core material is substantially more resistant to permanent bending deformation than the outer covering material; and wherein the outer covering material is a linear-elastic material, which outer covering material is substantially more resistant to buckling than the inner core material.

12. (Previously presented) The stylet of claim 11, wherein the outer covering material is selected from the group consisting of cold drawn 304 stainless steel, 316 stainless steel, and 316L stainless steel; and wherein the inner core material is nitinol (425 nickel-titanium alloy).

13. (Previously Presented) The stylet of claim 1, wherein the outer covering defines a tube and the inner core is a pre-formed rod that has been pre-stressed so that the inner core operates on the compression side of the stress-strain curve.

14. (Withdrawn) A stylet for use with a medical stimulating lead, the stylet comprising:

an outer covering extending from a proximal end of the stylet to a distal tip of the stylet; and
a solid inner core, made of inner core material, inside the outer covering, the inner core having a solid lateral cross-section and disposed entirely within the outer covering,
wherein the outer covering is made of an outer metal covering material which is substantially more flexible than the inner core material;
wherein the inner core material is substantially more resistant to buckling than the outer covering material.

15. (Withdrawn) The stylet of claim 14, wherein the outer covering material is selected from the group consisting of cold drawn 304 stainless steel, 316 stainless steel, 316L stainless steel and nitinol (42.5 nickel-titanium alloy); and wherein the inner core material is selected from the group consisting of magnesia partially stabilized Zirconia, Yttria stabilized Zirconia, ceramic, epoxy, and hard polyurethane.

16. (Withdrawn) The stylet of claim 15, wherein the stylet is dimensioned for use in deep brain stimulation (DBS).

17. (Withdrawn) The stylet of claim 14, wherein the outer covering defines a tube, having a wall cross-section defining an annulus.

18. (Withdrawn) A stimulating lead system which is insertable into tissue more than once, said system comprising:

a stimulating lead, said lead having an inner lumen along its axial length; and
the stylet of claim 1, wherein the body of the stylet is configured and dimensioned to fit inside said lumen.

19. (Withdrawn) The lead system of claim 18,
wherein the outer covering material is selected from the group consisting of cold drawn 304 stainless steel, 316 stainless steel, and 316L stainless steel and nitinol (425 nickel-titanium alloy); and
wherein the inner core material is selected from the group consisting of magnesia partially stabilized Zirconia, Yttria stabilized Zirconia, ceramics, epoxy, and hard polyurethane.

20. – 21. (Cancelled)

22. (Currently amended) The stylet of claim 6, wherein the diameter of the inner core increases along a portion of the length of the body ~~from one of the proximal end or the distal end to the other of the proximal end or distal end~~.

23. (Previously presented) The stylet of claim 1, wherein the stylet has a solid lateral cross-section along the length of the body.

24. – 27. (Cancelled)

28. (New) The stylet of claim 1, wherein the outer covering is thinner at the distal end of the stylet than at the proximal end of the stylet.

29. (New) The stylet of claim 1, wherein the stylus is pre-formed with a bend.

30. (New) The stylet of claim 2, wherein the inner core material is formed from tungsten and platinum.

31. (New) The stylet of claim 1, wherein one of the outer covering material or the inner core material is selected from the group consisting of cold drawn 304 stainless steel, 316 stainless steel, 316L stainless steel, and nitinol (425 nickel-titanium alloy); and

wherein the other of the outer covering material or the inner core material is selected from the group consisting of magnesia partially stabilized Zirconia, Yttria stabilized Zirconia, ceramic, epoxy, and hard polyurethane.